VITEK
INDUSTRIAL VIDEO PRODUCTS, INC.

Mighty Series WDR Dome Cameras

700 TVL Pixim-Powered
WDR Dome Cameras



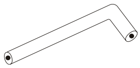
- Pixim D8800C Seawolf Digital Imaging System CMOS
- 700 TVL High Resolution
- WDR - Wide Dynamic Range
- 3DNR - Three Dimensional Noise Reduction
- Secondary Video Output (Cable Included)
- OSD (On Screen Display) for Camera Function Setup
- Flush or Surface Mount
- Infinity Ball Mount for Any Viewing Angle
- UTP interface and Heater / Blower Options Available
- UTC Control - Serial Control over Coax
- ¾" Conduit Knockouts
- Indoor and Vandal/Water Resistant IP 686 Rated Models
- Optional Extreme Cold (-60°F) Temperature Kit available
- Available in Ivory or Black
- Dual Voltage 12VDC & 24VAC

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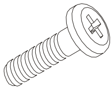
BOX CONTENTS

1) **Dome Camera**
2) **Accessories**
3) **VT-MD-2VOC (Secondary Video Output Cable)**
4) **Instruction Manual & Mounting Template**

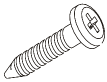
INCLUDED ACCESSORIES



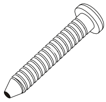
Torx Wrench - (Vandal & IR Versions Only)
Type #: T20
Length: 63mm / Diameter: 4mm
Qty: 1



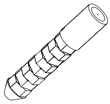
Phillips head Screws - (Vandal & IR Versions Only)
For attaching the dome cover to the flush housing.
Type #: Phillips head M4x10
Length: 10mm / Diameter: 4mm
Qty: 4



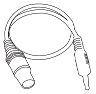
Self Tapping Screws
For attaching the surface mount housing or the the flush mount base to a solid surface.
Type #: Phillips St4x30
Length: 30mm / Diameter: 4mm
Qty:4



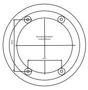
Self Tapping Screws - (Indoor Version Only)
For attaching the dome cover to the flush housing.
Type #: Phillips St4x12
Length: 12mm / Diameter: 4mm
Qty: 4



Dowels
If necessary, use the to help secure the self tapping screws.
Length: 30mm / Diameter: 7mm
Qty: 4



Secondary Video Output Cable for Mighty Domes:
VT-MD-2VOC
For viewing video image during installation.
Qty: 1



Mounting Template
Qty: 1

AVAILABLE MODELS / ACCESSORIES

INDOOR MIGHTY DOME CONFIGURATIONS:

VTD-MP2810WDR: Indoor Wide Dynamic Range Color Dome Camera with 2.8-10mm Varifocal Lens & 700TVL

VTD-MP922WDR: Indoor Wide Dynamic Range Color Dome Camera with 9-22mm Varifocal Lens & 700TVL

VTD-MP1850WDR: Indoor Wide Dynamic Range Color Dome Camera with 18-50mm Varifocal Lens & 700TVL

VANDAL RESISTANT MIGHTY DOME CONFIGURATIONS:

VTD-MVP2810WDR: Vandal Resistant Wide Dynamic Range Color Dome Camera with 2.8-10mm Varifocal Lens & 700TVL

VTD-MVP922WDR: Vandal Resistant Wide Dynamic Range Color Dome Camera with 9-22mm Varifocal Lens & 700TVL

VTD-MVP1850WDR: Vandal Resistant Color Dome Camera with 18-50mm Varifocal Lens & 700TVL

OPTIONAL MOUNTS & ACCESSORIES:

1. **Heater/Blower Option 24VAC:** (Vandal Resistant Models)
2. **UTP Option:** Unshielded Twisted Pair Transceiver Built-In
3. **VT-MD/FMP:** Flush Mount Plate for installation in drop ceilings or can be used as cover plate when using 4S Junction Box
4. **VT-MD/PLMT:** Mighty Dome Pole Mount Adapter - Requires VT-MD/WMT Wall Mount
5. **VT-MD/CMT:** Mighty Dome Ceiling/Pedestal Mount (Can be extended if necessary)
6. **VT-MD/CNMT:** Mighty Dome Corner Mount Adapter - Requires VT-MD/WMT Wall Mount
7. **VT-MD/WMT:** Mighty Dome Wall Mount (Available In Ivory or Black)



1.



2.



3.



4.



5.

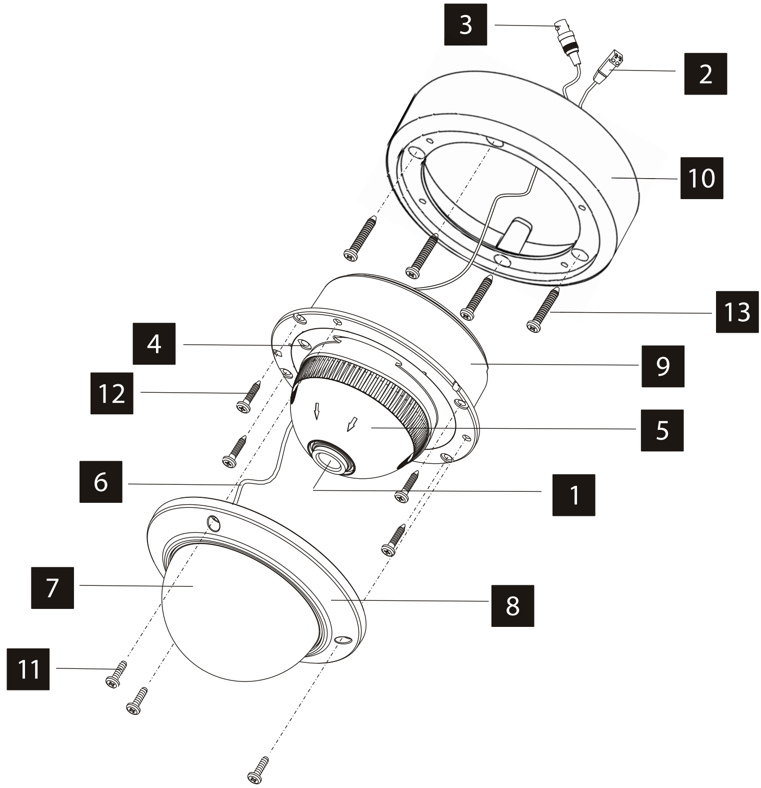


6.



7.

MIGHTY DOME LAYOUT



1) Lens

2) Power Input Connector(12VDC / 24VAC)

3) Video Output Connector - BNC

4) Camera Holder and 2nd Video output

5) Ball with the Camera Assembly

6) Safety Wire

7) Bubble

8) Dome Cover Ring

9) Flush Mount Base

10) Surface Mount Plate

11) Assembly Screws - Torx M4x9 (Vandalproof)

12) Assembly Screws - Phillips ST4x12 (Indoor) / Phillips M4x10 (Vandalproof / IR)

13) Mounting Screws - Phillips ST4x30

INSTALLATION

1) Dome Cover

1.1 Vandal Proof Domes - Use the provided Torx wrench to unscrew the vandal proof screws and remove the dome cover.

1.2 Indoor Domes - Turn the dome cover to the left to remove the dome cover.

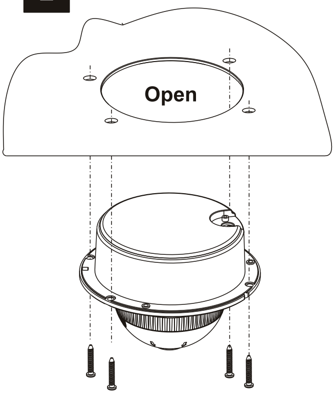
2) Flush Mount Installation:

Using four St4x30 screws, attach the flush mount base to a sturdy surface.
Optional flush mount decorator plate. Model: VT-MD-FMP

3) Surface Mount Installation:

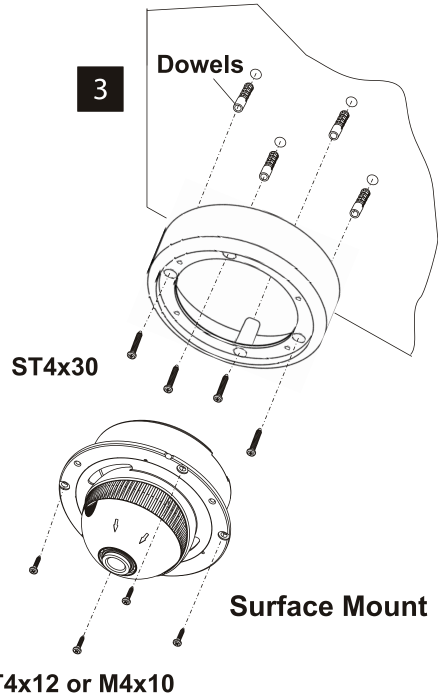
Drill pilot holes at the mounting location using the provided mounting template. Using four St4x30 screws, mount the surface mount housing to a sturdy surface. Using four ST4x12 (Indoor) screws or M4x10 (Vandal-proof) screws, attach the flush mount base to the surface mount housing.

2



Flush Mount

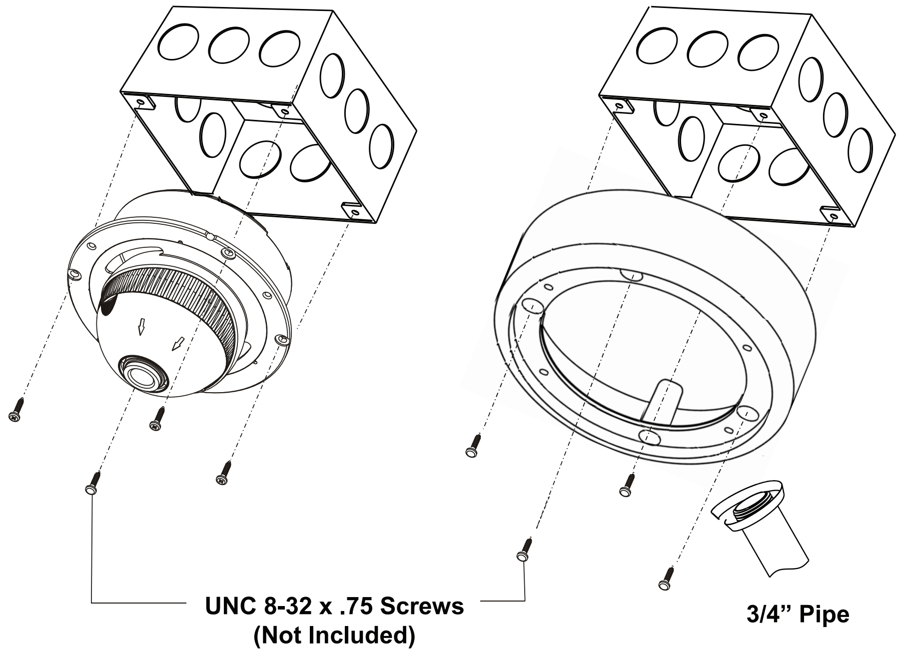
3



Surface Mount

JUNCTION BOX INSTALLATION

Mighty Domes can easily be flush or surface mounted to an electrical junction box (4S J-Box) using the pre-drilled mounting holes on either the surface mount housing or the the flush mount base.



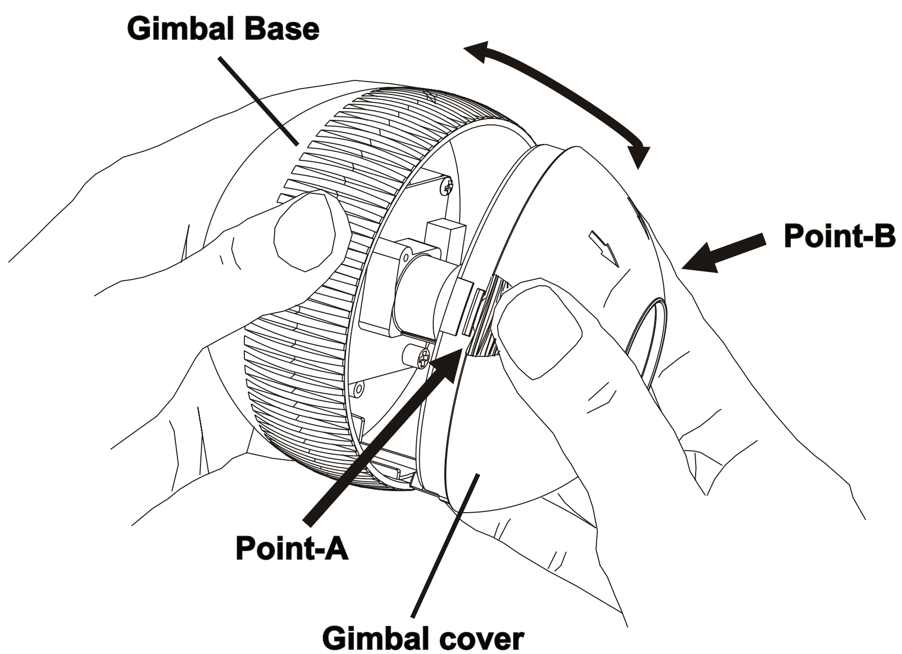
OPEN GIMBAL COVER

To adjust the zoom and the focus, the gimbal needs to be removed temporarily from its base.

1) Remove the ball gimbal from its socket, and hold the base firmly with one hand.

2) Gently squeeze Point A and B and pull away from the base until the gimbal is removed from the base.

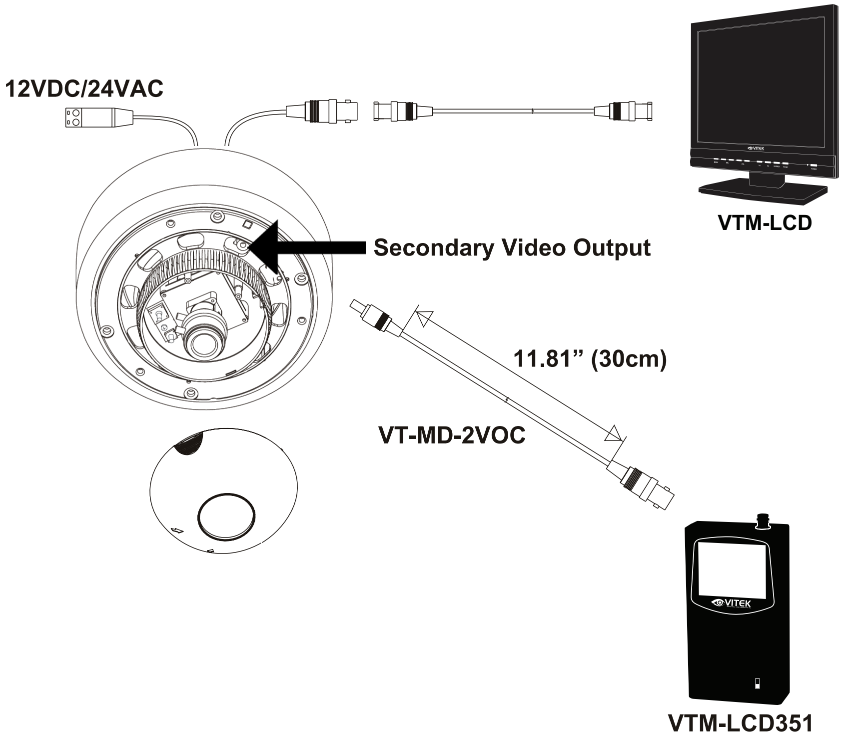
3) Replace the Gimbal cover by aligning the cover to the base and pressing down until it snaps back onto the base.



CONNECTIONS

- Power connection: 12VDC or 24VAC dual input.

- All Mighty Dome cameras come standard with a secondary video output. The secondary video cable (VT-MD-2VOC) is included in the box.



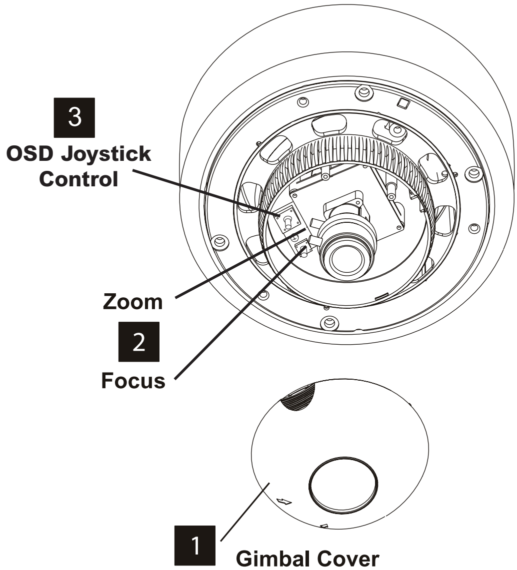
LENS ADJUSTMENT

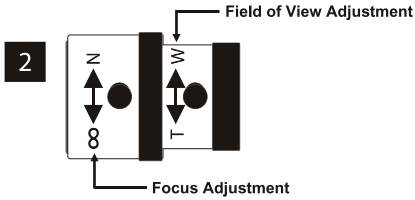
1) Remove the Gimbal cover from the Gimbal base.

2) Loosen Zoom & Focus screws and make necessary adjustments as shown.
Field of view: Telephoto(T) to Wide(W)
Focus: Near(N) to infinity(∞)

3) OSD Joystick Control

4) Reattach the gimbal cover to the gimbal base.

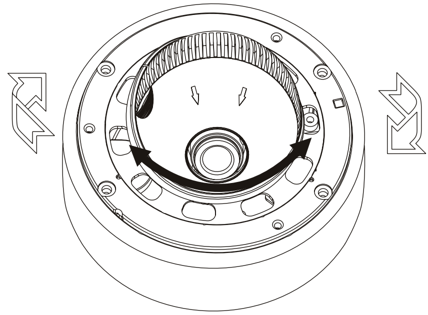




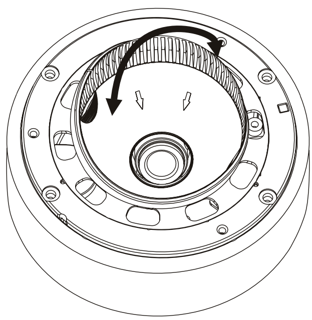
INFINITE AXIS GIMBAL ADJUSTMENT
Rotation and "Friction Hold" Placement

The Gimbal mechanism yields maximum rotation and placement as shown below.

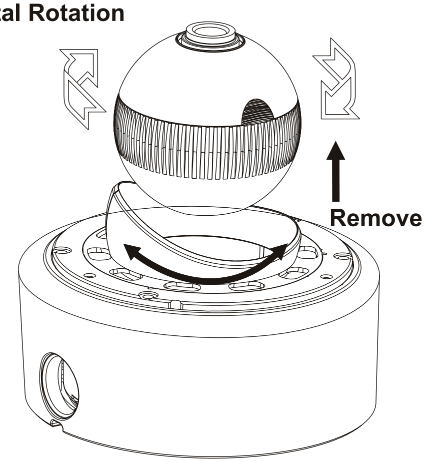
1 Pan



2 Tilt



3 Horizontal Rotation



WDR Mighty Dome Features

CMOS image sensor:
- Provides the best quality image without any blooming or vertical smear even under the spot light.

Pixim's DPS technology:
- Offers unparalleled image quality across all lighting conditions especially in high contrast environments such as indoor and outdoor elements combined in the same field of view, or other extreme bright & dark lighting elements combined in the same image.
- Delivers natural color
- Offers high resolution of 700TVL
- Eliminates compromising image noise by blooming or vertical smear
- Eliminates color rolling of the NTSC system by line-lock synchronization (AC24V version)
- Offers on-screen menu

ICR mechanism:
- Enhances sensitivity about 10x at night time
- Can accept infrared light

24VAC/12VDC dual power design:
- Offers flexibility in installation
- Ensures reliability

Main features are:

- Pixim D8800C Seawolf Digital Imaging System CMOS
- 700 TVL High Resolution
- WDR - Wide Dynamic Range
- 3DNR - Three Dimensional Noise Reduction
- Secondary Video Output (Cable Included)
- OSD (On Screen Display) for Camera Function Setup
- Flush or Surface Mount
- Infinity Ball Mount for Any Viewing Angle
- UTP interface and Heater / Blower Options Available
- UTC Control - Serial Control over Coax
- 1” Conduit Knockout
- Indoor and Vandal/Waterproof Proof IP 686 Rated Models Available
- Optional Extreme Cold (-60’F) Temperature Kit available
- Available in ivory or black
- Dual Voltage 12VDC & 24VAC

OSD Menu Features/Setup

SETUP

1 In the Menu

Use , buttons to move the menu, , buttons to change the settings and press button to select or enter. button stands for MENU or ENTER.

2 Entering Menu

Press button longer for than 2 seconds on the back of the camera.

3 MAIN

Follow the chart below for submenu settings

```
        MENU          V1.0 - DN

>EXPOSURE
  DAY/NIGHT                 AUTO...
  3DNR
  LENS SELECT                  DC...
  PICTURE CONTROL
  SPECIAL
  D-EFFECT
  EXIT
```

MENU	Default	Descriptions
EXPOSURE		Sets COLOR ROLL COMP., AE PREFERENCE, WDR CONTROL and SENSE-UP.
DAY/NIGHT	AUTO	Sets OFF, AUTO or NIGHT **OFF** - Day/Night is disabled and camera works as a normal color camera. **AUTO** - Camera switches DAY from/to NIGHT automatically. N->D THRES, N<->D DELAY, BURST ON B/W can be set. See DAY&NIGHT AUTO SETUP for detail. **NIGHT** - Forced to remove IR cut filter and switch to B/W.
3D NR		Sets DEPTH of 3D NR.
LENS SELECT	DC	Selects the lens type, DC or MANUAL. **In sub-menu, Accurate Focus can be set by function of FOCUS ADJ...**
PICTURE CONTROL		Sets WHITE BALANCE, COLOR SELECT, SHARPNESS, SATURATION, GAMMA.
SPECIAL		Sets MOTION, PRIVACY MASK, SYNC, LANGUAGE, VIDEO STANDARD, RS485 CONTROL.
D-EFFECT		Sets FREEZE, FLIP or D-PTZ.
EXIT		Choose EXIT, SAVE AND EXIT or FACTORY SET.

OSD Menu Features/Setup

4 EXPOSURE

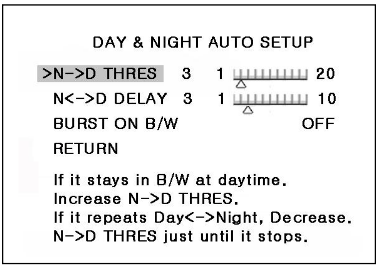
To enter EXPOSURE menu, press button at MAIN>EXPOSURE.

```
            EXPOSURE
>COLOR ROLL COMP.          OFF
 AE PREFERENCE      HIGHLIGHTS
 WDR CONTROL            MEDIUM
 SENSE-UP              AUTO...
 RETURN
```

EXPOSURE	Default	Descriptions
COLOR ROLL COMP.	OFF	In NTSC system, the entire color tone on the monitor may continuously show reddish and greenish. **COLOR ROLL COMP.** - Reduces the color rolling under the fluorescent lighting. (NTSC system only) **OFF** - Does not compensate the color rolling. **MODE-M** - Compensates the color rolling when a manual lens is used. **MODE-A** - Compensates the color rolling when an auto iris lens is used.
AE PREFRENCE	HIGHLIGHTS	Sets HIGHLIGHTS or SHADOWS **HIGHLIGHTS** - Provides the best detail in the brighter areas. The darker parts of the scene may under-expose. **SHADOWS** - Provides the best detail in the darker areas. It will reduce the dynamic range and the brighter parts may overexpose.
WDR CONTROL	MEDIUM	**LOW** - Produces an image that has better contrast but less dynamic range and is suitable for indoor or low-contrast outdoor scenes. **NORMAL** - Produces an image that has average contrast and is suitable for indoor or low-contrast outdoor scenes. **MEDIUM** - Produces an image that has better dynamic range and is suitable for a lobby or high-contrast outdoor scenes. **HIGH** - Produces an image that has best dynamic range but less contrast and is suitable for high-contrast outdoor scenes. **CUSTOM** - Provides more flexible compensation by ZONE, RANGE and BIAS. **When COLOR ROLLCOMP. is set to MODE-A, WDR CONTROL will be fixed as LOW.
SENSE-UP	AUTO	If SENSE-UP is set to AUTO, the maximum sense-up rate can be limited to 2X-30FPS, 4X15FPS, 8X-18FPS, 16X-4FPS, 32X-2FPS or 64X-2FPS in SENSE-UP SETUP. **The integration frames vary automatically within the max. rate according to the light level when light becomes low and DSS is operating**. The higher sense-up rate, the higher sensitivity but the slower refresh rate. Some white dots may appear by sense-up due to the image sensor's long accumulation by a long shutter period.

5 DAY/NIGHT

To enter EXPOSURE menu, press button at MAIN>DAY/NIGHT>AUTO



IMPORTANT!!!

IMPORTANT!!!

DAY->NIGHT and NIGHT->DAY operations must be examined and verified at the final step of the installation.

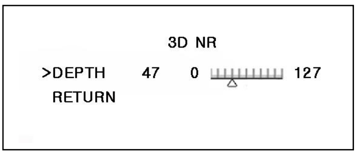
Block the lens for a few seconds for NIGHT mode and release and let it return to DAY mode.
If camera stays at NIGHT mode more than 10 seconds, increase N-->D THRES a little and repeat the fore-mentioned steps.
If the scene is too dim or lens iris was adjusted too low (near close), it may not return to DAY.

DAY/NIGHT	Default	Descriptions
N-->D THRES.	3	**N-->D THRES** is a threshold level to switch from NIGHT to DAY. Due to the nature of WDR the image level of the scene is controlled down and the camera will not switch to DAY despite bright ambience. Increase the value if it stays in B/W and is required to switch to DAY. Too high of a value may make ICR repeat between NIGHT<-->DAY. In that case, slightly reduce the value and try all of the above.
N<-->D DELAY	3	**N<-->D DELAY** is time in seconds while the camera maintains its status before D<-->N switches. DELAY can avoid the unwanted/frivolous switching by a short term light. (I.e. the light from the passing car)
BURST ON B/W	OFF	**BURST ON B/W** determines whether a color burst signal keeps output or eliminated when camera switches to B/W. If set to ON, B/W video signal contains color burst signal and is more compatible with the color equipment but shows the same resolution as color video. If set to OFF, the color burst signal is removed from B/W video and shows better resolution. Rarely, a compatibility problem may occur with the color equipment.

OSD Menu Features/Setup

6 3D NR

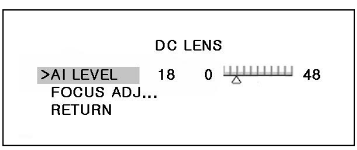
To enter EXPOSURE menu, press button at MAIN>3D NR

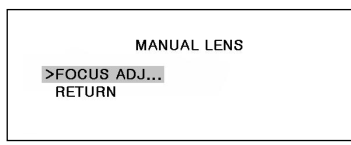


3D NR	Default	Descriptions
DEPTH	47	Determines the depth of Three Dimensional Noise Reduction. High value effectively reduces the noise but a comet effect may occur for a fast moving object and vice versa.

7 DC LENS or MANUAL LENS

To enter EXPOSURE menu, press button at MAIN>LENS SELECT>DC... or MANUAL...

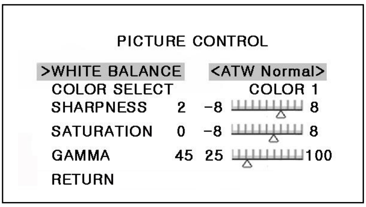




DC/ MANUAL	Default	Descriptions
AI LEVEL	-24	Lower value opens the lens iris and increases the brightness and vice versa. **Too high of a value reduces the amount of incoming light and may result in the camera not returning to DAY from NIGHT.**
FOCUS ADJ...	-	**FOCUS ADJUST helps accurately adjust the focus regardless of DAY or NIGHT.** Sometimes the focus looks fine tuned at day time but out of focus at night time. This function can eliminate the wrong adjustment of focus.

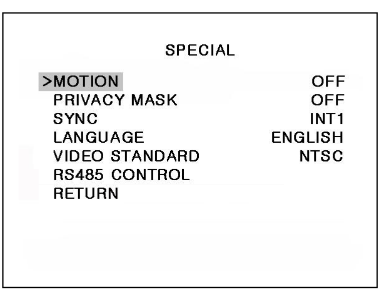
8 PICTURE CONTROL

To enter the EXPOSURE menu, press button at MAIN>PICTURE CONTROL.



PICTURE CONTROL	Factory Default	Descriptions
WHITE BALANCE	ATW NORMAL	Sets ATW Normal, ATW Desat, ATW Xtnd or MANUAL. **ATW NORMAL** - Compensates automatically in range of 2800K-7500K. **ATW DESAT** - Compensates automatically in range of 2000K-11000K. In the range of 2000-2800K and 7500-11000K, white balance is gradually compensated. **ATW Xtnd** - Compensates automatically in range of 2000K-11000K. **MANUAL** - White balance can be adjusted by either KELVIN or R/B
COLOR SELECT	COLOR1	Provides three color tones.
SHARPNESS	2	Increase or decrease the sharpness of the picture. Too much sharpness can make image harsh and show more noise as well as line flicker at the edge of the object in the picture.
SATURATION	1	High value makes color rich and vice versa.
GAMMA	45	Lower value improves the gain of the dark area but the image has less contrast. Higher value reduces the gain of the dark area and makes the image more dark and contrastive. The image will lose the linearity with too high of a value.

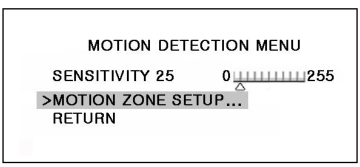
9 SPECIAL

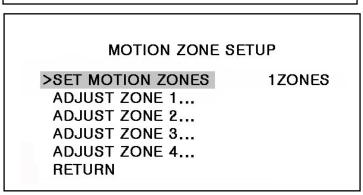


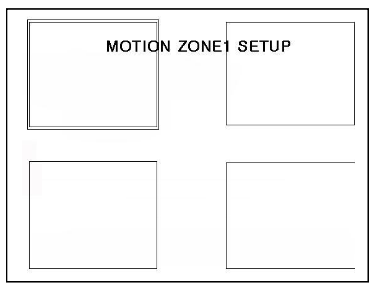
OSD Menu Features/Setup

SPECIAL	Default	Descriptions
MOTION	OFF	If it is set to ON and motion is detected, MOTION message will appear on the monitor. See page 16, 'MOTION ' for settings.
PRIVACY MASK	OFF	If set to ON, it is available up to 6 privacy masks . See page 11, 'PRIVACY Area' for settings.
SYNC	INT 1	Sync is fixed to INT1.
LAN GUAGE	ENGLISH	English is available only.
VIDEO STANDARD	NTSC	Able to switch NTSC or PAL.
RS485 CONTROL		Sets the communication parameters of RS -485 for the remote control.

10 MOTION







Up to 4 motion areas and the sensitivity can be set. The sensitivity is applied for all zones equally.
When adjusting each zone, the zone border line changes color when pressing button. Green enables enlarging, red enables reducing and white enables moving the zone with , , , buttons.
To exit MOTION ZONE SETUP, press button for 2 seconds.

11 PRIVACY AREA

PRIVACY AREA	
>AREA 1	OFF
AREA 2	OFF
AREA 3	OFF
AREA 4	OFF
AREA 5	OFF
AREA 6	OFF
MASK COLOR	WHITE
RETURN	

Up to 6 privacy areas can be programmed in size, position and mask color.
Use joystick to change size, position and mask color.



Right after pressing button at ON, the 1st zone appears on top-left corner in orange.
The orange colored zone can be relocated in its location with , , , buttons.



Image after pressing button again. (1st zone changes to blue)
Blue colored zone can be resized with , , , buttons.



An example of the mask when resizing with , , , buttons

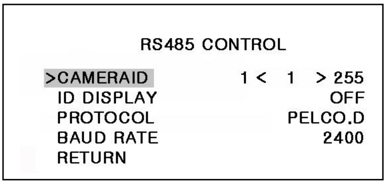


An example of mask when relocating.

Press button longer than 2 seconds to return to the previous menu.

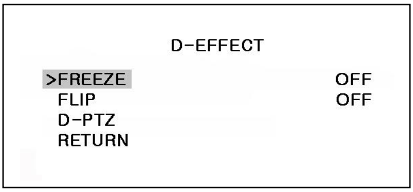
OSD Menu Features/Setup

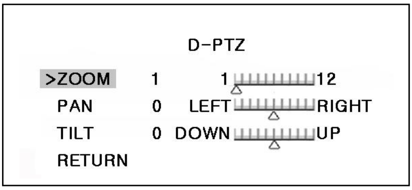
12 RS485 CONTROL



RS485 CONTROL	Default	Description
CAMERA ID	1	Determines the camera’s identification (between 1 and 255)
ID DISPLAY	OFF	Displays camera title on top-left corner of the screen.
PROTOCOL	VITEK	VITEK is available only.
BAUD RATE	2400	Select 2400/4800/9600/19200 bps.

13 D-EFFECT





D-EFFECT	Default	Descriptions
FREEZE	OFF	Image freezes and shows the still image at the moment when set to ON.
FLIP	OFF	OFF (Normal display), H-FLIP (left & right flipped), V-FLIP (upside down flipped), H/V-FLIP (left & right flipped and upside down flipped.) Direction of joystick control should be flipped if V-flip is flipped to H/V-flip.
D-PTZ		Able to set digital zoom up to x12 and digital PAN/TILT if zoom ratio >1.

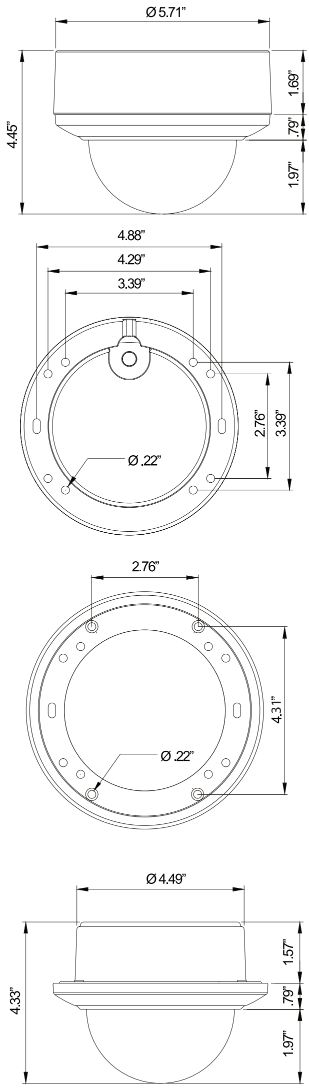
D-PTZ	Default	Descriptions
ZOOM	1	Digital zoom can set up to x12 x1 stands for ZOOM OFF.
PAN	0	Digital PAN can be set if ZOOM is set to >1.
TILT	0	Digital TILT can be set if ZOOM is set to >1.

14 EXIT

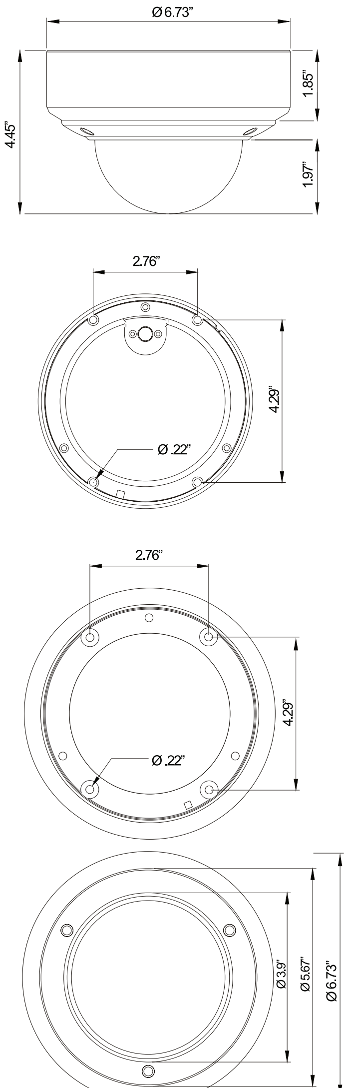
MENU-2	Descriptions
EXIT	Exits menu with discarding any changes.
SAVE AND EXIT	Exits menu after saving the parameters.
FACTORY SET	Restores and saves all parameters of factory settings. Camera resets and restarts automatically.

DIMENSIONS

Indoor



Vandal



HEATER / BLOWER SPECIFICATIONS

Specifications	
Power Supply	24 VAC
Power Consumption	10W (Heater) / .7W (Blower)
Heater	On: at 41ºF / Off at 59ºF
Blower	Continuous 24 Hour Operation
Extreme Weather Heater - Optional	On: -60ºF

INDOOR MIGHTY DOME SPECIFICATIONS

Specifications	NTSC	PAL
Image Device	Pixim D8800C Seawolf Digital Imaging System CMOS	
Effective Pixels	758(H) X 540(V)	
Scan Frequency	59.94HZ(V), 15.734K HZ(H)	50HZ(V), 15.625K HZ(H)
Synchronization	Internal / Line Lock (Phase Adjust)	
Horizontal Resolution	700TVL	
Sensitivity	0.00008Lux at F1.2@40IRE, 32x (DSS + ICR mode)*	
S/N Ratio	More than 52dB AGC OFF at 50IRE	
White Balance	2,000~11,000 K Automatic Tracking / AWB / MANUAL	
WDR Mode	[Low / Middle / High / Custom (User Adjustment)]	
Motion Detection	On / Off (4 Programmable Zone)	
Digital Zoom	Up to X12 Digital Zoom	
FLIP	OFF / H-FLIP / V-FLIP / H/V-FLIP	
Privacy Zone	On / Off (6 Programmable Zone)	
Auto Iris Control	DC Drive Iris Control	
SLOW SHUTTER	2 ~ 32X	
Day & Night	Infrared Cut-Filter Removable built-in	
Lens Options	F1.2 2.8-10mm DC Auto Iris IR Corrected ICR / F1.8 9-22mm	
	DC Auto Iris IR Corrected ICR / F1.5 18-50mm DC Auto Iris Corrected ICR	
Video Output	VBS 1 Vpp +/- 10%, 75ohm	
Operating Power	12VDC / 24VAC 3 Watts / 220mAmp	
Operating Condition	-4F ~ 122F (-20C ~ +50C), 85% RH. Max. Non-condensing	
Dimensions (H x Dia.)	4.45” x 5.71” (113mm x 145mm)	
Weight (Camera)	1lb / .46Kg	
Weight (Carton)	1.6lb / .72Kg	

*Light Sensitivity may vary depending on lens specifications and capsule density and color

VANDAL MIGHTY DOME SPECIFICATIONS

Specifications	NTSC	PAL
Image Device	Pixim D8800C Seawolf Digital Imaging System CMOS	
Effective Pixels	758(H) x 540(V)	
Scan Frequency	59.94HZ(V), 15.734K HZ(H)	50HZ(V), 15.625KHZ(H)
Synchronization	Internal / Line Lock (Phase Adjust)	
Horizontal Resolution	700TVL	
Sensitivity	0.00008Lux at F1.2@40IRE, 32x (DSS + ICR Mode)*	
S/N Ratio	More than 50dB AGC OFF at 50IRE	
White Balance	2000~11000 K Automatic Tracking / AWB / Manual	
WDR Mode	[Low / Middle / High / Custom (User Adjustment)]	
Motion Detection	On / Off (4 Programmable Zone)	
Digital Zoom	Up to X12 Digital Zoom	
FLIP	OFF / H-FLIP / V-FLIP / H/V-FLIP	
Privacy Zone	On / Off (6 Programmable Zone)	
Auto Iris Control	DC Drive Iris Control	
SLOW SHUTTER	2 ~ 32X	
Day & Night	Infrared Cut-Filter Removable Built-In	
IP Rating	IP686	
Lens Options	F1.2 2.8-10mm DC Auto Iris IR Corrected ICR / F1.8 9-22mm	
	DC Auto Iris IR Corrected ICR / F1.5 18-50mm DC Auto Iris IR Corrected ICR	
Video Output	VBS 1 Vpp +/- 10%, 75ohm	
Operating Power	12VDC / 24VAC 3 Watts / 220 mAmp	
Operating Condition	-4F ~ 122F (-20C ~ +50C) 85% RH. Max. Non Condensing	
Dimensions (H x Dia.)	4.45” x 6.73” (110mm x 170mm)	
Weight (Camera)	2.3lb / 1.04Kg	
Weight (Carton)	2.9lb / 1.32Kg	

*Light Sensitivity may vary depending on lens specifications and capsule density and color



VTM-LCDP Series

15" 17" and 19" Professional LCD Monitors

- 15" 17" and 19" Professional LCD Display Panels
- Designed for continuous 24/7 operation
- VGA, Looping BNC Composite, and S-Video Video Inputs. DVI & HDMI Inputs on 17" & 19" Versions
- Resolution up to 1280 X 1024 (17" & 19")
- Stereo Audio Input/Output
- VESA Standard Mounting



CHRONO Series

8, and 16 Channel Digital Video Recorders

H.264

- Highly efficient H.264 compression
- Built-in Data Redundancy
- Real-time recording and real-time playback
- System Setup Wizard and User Friendly GUI
- Multi-Resolution recording
- 4 Spot Output (8 &16 Channel)
- Highly efficient and stable proprietary Database Structure
- Identical GUI for DVR and client viewer
- Built-in Point-of-Sales support
- Web clients & CMS (Central Management Software) Included
- iPhone App



LIMITED LIABILITY WARRANTY

VITEK products carry a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is non-transferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

This guarantee does not affect your statutory rights.

Contact your local VITEK Reseller should servicing become necessary.

VITEK makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a VITEK Authorized Reseller.

VITEK
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